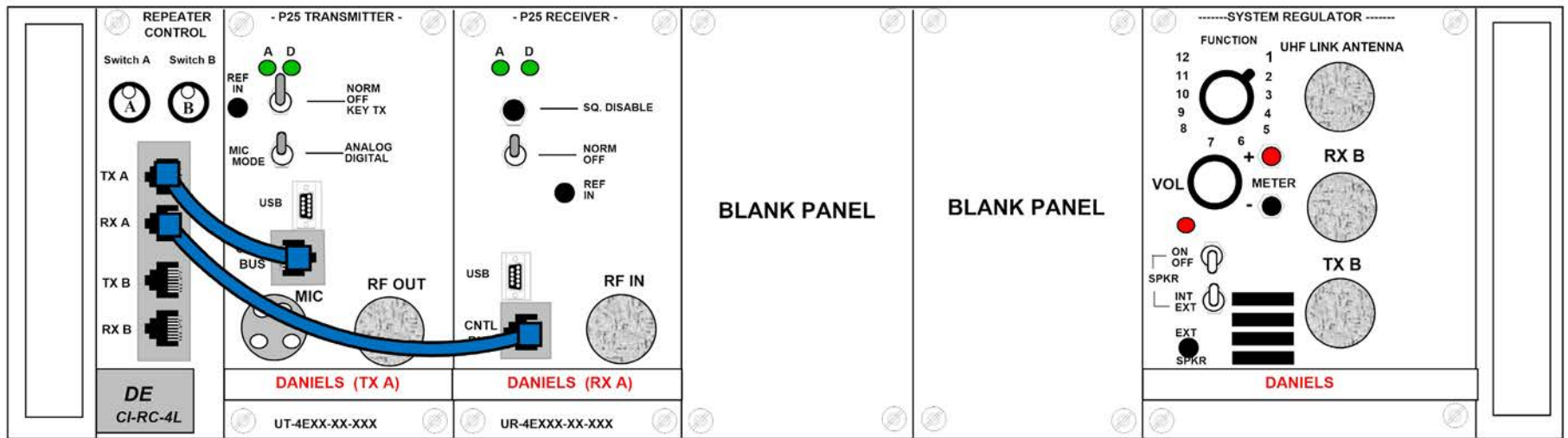


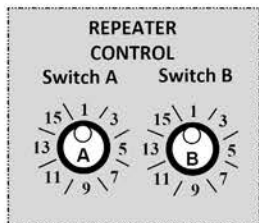
# 4248 - UHF REPEATER SWITCH SETTINGS (E-MODELS ONLY)



## 4248 - UHF REPEATER CONFIGURATION: (E-MODELS ONLY)

- Set up the **UHF Omni-Directional** antenna and attach on end of the coaxial cable to the UHF base of the antenna mount. *(See Antenna Instructions in User's Guide for detailed setup)*
  - Attach the other end of the **UHF** coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
  - Connect the power cable to the batteries using the provided **Polarized** fused cable.
  - Once power is connected, all modules are active. *(No master power switch)*
  - Keep the power switches on both the "TX A" and "RX A" modules in the "NORM" position.
  - Keep the "MIC Mode" on the "TX A" in the "ANALOG" position.
  - Keep the **speaker audio OFF** by switching the **Speaker Switch** on the **System Regulator** to the "OFF" position.
  - Test with **two UHF handhelds** to verify the repeater is operating correctly.
- (NIRSC recommends testing with the field units or ICP if possible before leaving the site.)*

*Note: NIRSC has implemented a RX/TX Fixed Tone of 110.9 on all UHF Frequencies to help minimize possible interference on UHF signals.*



Close Up View  
Switch A, Switch B  
Repeater Control Module

### To Enable Audio to Internal Speaker for Troubleshooting:

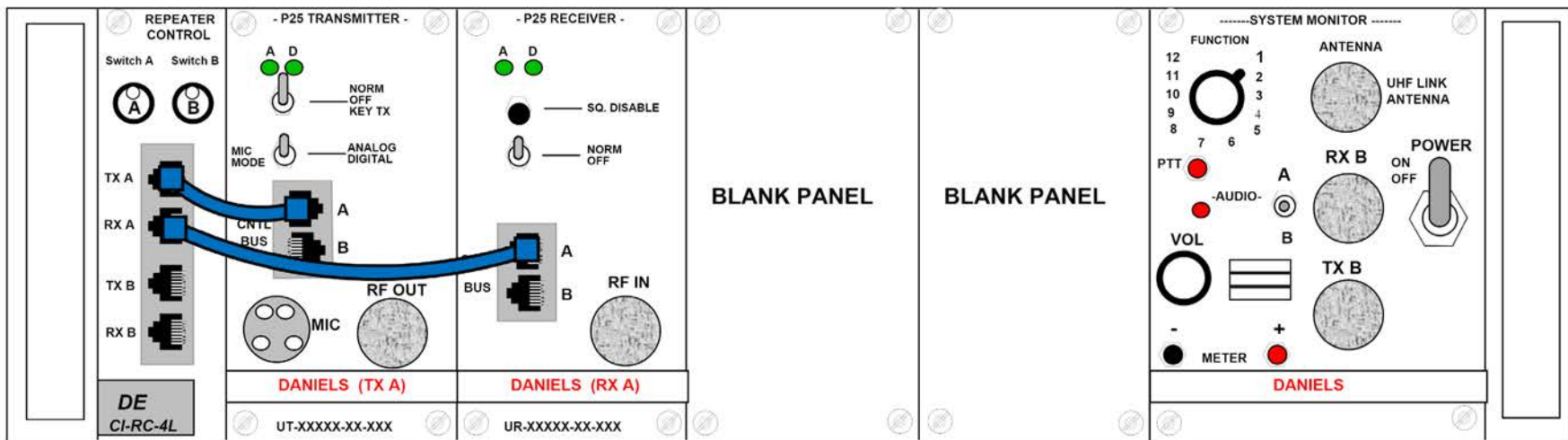
1. Enable the speaker by switching the Speaker switch located on the System Regulator Module, to the "ON" position.
2. Select the receiver A by turning the Function Switch located on the System Regulator Module to **position 3** for RX A Audio.

*Note: Select "INT" on the System Regulator Module to enable the audio to the internal speaker and "EXT" for the external speaker.*

### System Regulator Switch Functions (4248 -UHF Repeater) E-Models Only

1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3-12	NIRSC Technician Testing
Revised 2022	

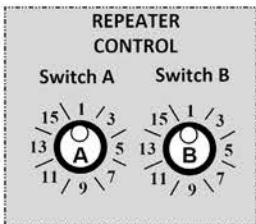
# 4248 - UHF REPEATER SWITCH SETTINGS



## 4248 - UHF REPEATER CONFIGURATION:

- Set up **UHF Omni-Directional** antenna and attach one end of the coaxial cable to the UHF base of the antenna mount.  
*(See Antenna Instructions in User's Guide for detailed setup information)*
- Attach the other end of UHF coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the power cable to the batteries using the provided **POLARIZED** fused cable.
- Turn the **Power Switch** to the "ON" position on the "**System Monitor Module**".
- Keep the power switches on both the "TX A" and "RX A" modules in "**NORM**" position.
- Keep the "**Mic Mode**" on the "TX A" in the "**ANALOG**" position.
- Keep the **speaker audio OFF** by switching the **A/B Speaker switch** on the System Monitor to the "**Center**" position.
- Test with **two UHF handhelds** to verify the repeater is operating correctly.  
*(NIRSC recommends testing with the field Units or ICP if possible before leaving the site.)*

*Note: NIRSC has implemented a RX/TX Fixed Tone of 110.9 on all UHF Frequencies to help minimize possible interference on UHF signals.*



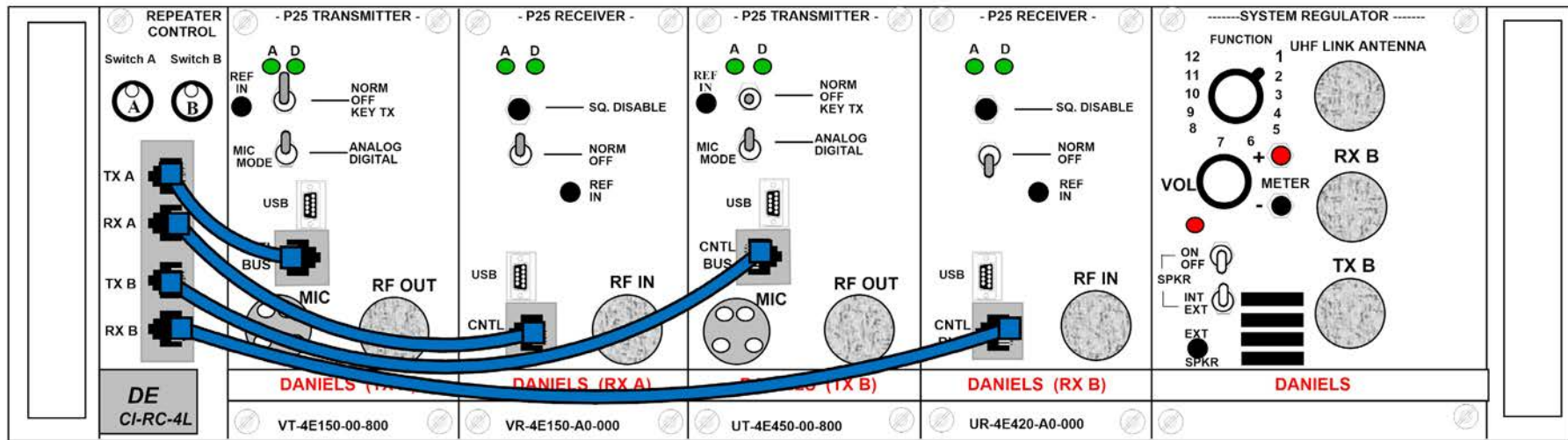
Close-Up View  
Switch A, Switch B  
Repeater Control Module

**Enabling Internal Speaker for Troubleshooting**

- Enable the speaker Audio A by switching the speaker A/B Switch Located on the **System Monitor**, to the "A" position.

System Monitor Switch Functions (4248 - UHF Repeater Configuration)	
2	+13.8 V (Supply Voltage)
3	+9.5 V Regulated
1, 4-12	NIRSC Technician Testing
Revised 2021	

# 4312 - VHF REPEATER SWITCH SETTINGS (E MODELS ONLY)



## 4312 - VHF REPEATER CONFIGURATION: (E-MODELS ONLY)

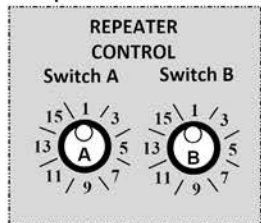
- Set up the VHF Directional antenna and attach the coaxial cable to the appropriate VHF Base antenna mount. *(See Antenna Instructions in the User's Guide for detailed setup information)*
- Attach the other end of the VHF coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the power cable to the batteries using the provided POLARIZED fused cable. Once power cable is connected, all modules are active. *(No master power switch)*
- Keep the power switches on both the TX A and RX A in the "NORM" position.
- Keep the power switches on both the TX B and RX B in the "OFF" position. *(Stand-alone Repeater Configuration - No Linking)*
- Keep the MIC MODE switch on both the TX A and TX B in the "ANALOG" position.
- Keep the speaker audio OFF by switching the Speaker Switch on the System Regulator to the "OFF" position.
- Select the assigned tone by turning Switch A knob, located on the top portion of the Repeater Control Module, to associated position. *(Switch A - VHF Tone Selection) 16-Position Switch, Position 1 is straight up)*
- Test with two VHF handhelds to verify the repeater is operating correctly. *(NIRSC recommends testing with the field units or ICP if possible before leaving the site)*

*Note: Selecting a tone will enable the tone on both the TX A and RX A modules.*

*The Communications Duty Officer (CDO) or COMC will assign the appropriate tone for each incident. Contact the CDO for a tone assignment @ 208-387-5644*  
*The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*

Switch A - VHF Tone Table	
Position A1	Tone 1: 110.9
Position A2	Tone 2: 123.0
Position A3	Tone 3: 131.8
Position A4	Tone 4: 136.5
Position A5	Tone 5: 146.2
Position A6	Tone 6: 156.7
Position A7	Tone 7: 167.9
Position A8	Tone 8: 103.5
Position A9	Tone 9: 100.0
Position A10	Tone 10: 107.2
Position A11	Tone 11: 114.8
Position A12	Tone 12: 127.3
Position A13	Tone 13: 141.3
Position A14	Tone 14: 151.4
Position A15	Tone 15: 162.2
Position A16	No Tone

Close Up View  
Switch A, Switch B  
Repeater Control Module

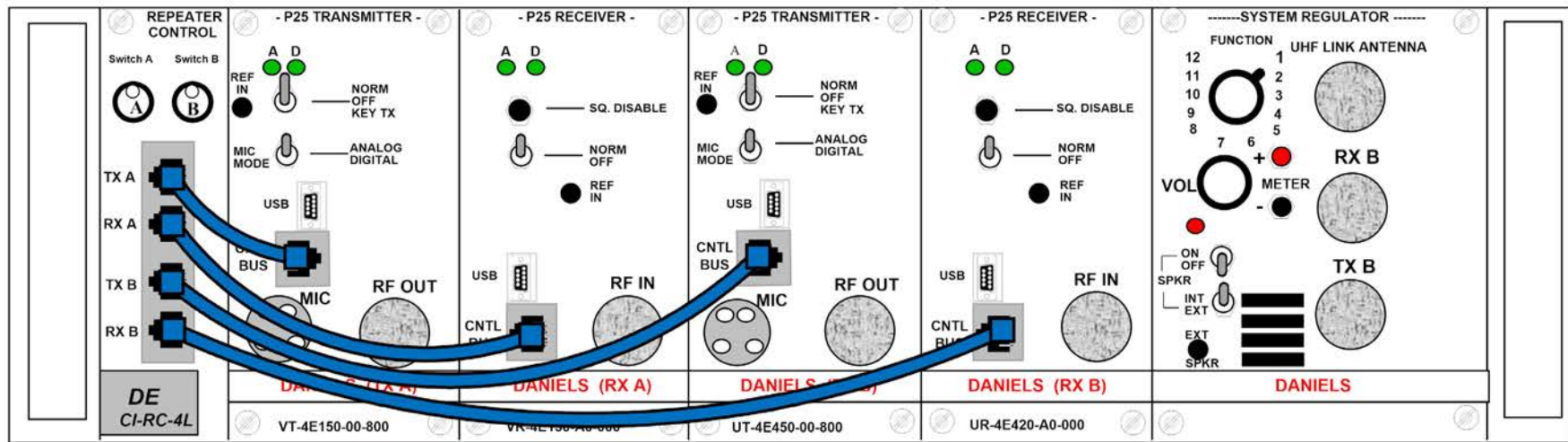


**To Enable Audio to Internal Speaker for Troubleshooting:**

1. Enable the speaker by switching the Speaker switch located on the System Regulator Module, to the "ON" position.
2. Select the desired receiver audio, A or B, by turning the Function Switch located on the System Regulator, to position 3 for RX Audio A or position 5 for RX audio B.  
*Note: Select "INT" on the System Regulator Module to enable the audio to the internal speaker or "EXT" for the external speaker if connected.*

System Regulator Switch Functions (4312-VHF Repeater Configuration) E-Model Only	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3-12	NIRSC Technician Testing
Revised 2022	

# 4312 - VHF REPEATER/LINK SWITCH SETTINGS (E MODELS ONLY)



## 4312 - VHF REPEATER/LINK CONFIGURATION (E-MODELS ONLY)

- Set up the VHF Antenna and attach the coax to the appropriate VHF Base and connector on the bulkhead mount located on the back of the fiberglass box. (See Antenna Instructions in the User's Guide for more info)
  - Set up the UHF antenna and attach the coax to the appropriate UHF base and connector on the bulkhead mount located on the back of the fiberglass box.
  - Connect the power cable to the batteries using provided POLARIZED fused cable. Once the power cable is connected, all modules are active. (No master power switch)
  - Turn each module "ON" by keeping the switches on the TX A, RX A, TXB, and RXB in the "NORM" position.
  - Keep the speaker audio off by switching the Speaker Switch on the System Regulator Module to the "OFF" position.
  - Keep the MIC MODE switch on both the TX A and TX B in the ANALOG position.
  - Select assigned tone by turning the Switch A knob, located on the top portion of the Repeater Control Module, to associated position. (Switch A - VHF Tone Table)
  - Select assigned UHF frequency by turning the Switch B knob, located on the top portion of the Repeater Control Module, to associated position. (Switch B - UHF Link Frequency and Tone Table)
- Note: NIRSC has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.*
- Test with two VHF and one UHF handheld to verify both the repeater and link are operating correctly. (NIRSC recommends testing with the field units or ICP if possible before leaving the site)

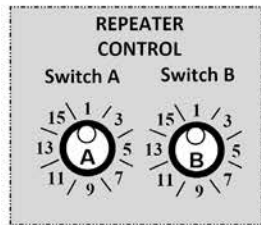
*Note: Selecting a tone will enable the tone on both TX A and RX A modules.*

*The Communications Duty Officer (CDO) or COMC will assign the appropriate tone and UHF frequency for each incident. Contact the CDO for a tone and UHF frequency assignment @ 208-387-5644*

*Both Switch A and Switch B is a 16 position rotary switch, with Position 1 being straight up.*

*The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*

Switch A - VHF Tone Table		Switch B - UHF Link Frequency/Tone Table	
Position A1	Tone 1: 110.9	Position B1	L1 RPTR Access Tone: 110.9
Position A2	Tone 2: 123.0	Position B2	L2 RPTR Access Tone: 110.9
Position A3	Tone 3: 131.8	Position B3	L3 RPTR Access Tone: 110.9
Position A4	Tone 4: 136.5	Position B4	L4 RPTR Access Tone: 110.9
Position A5	Tone 5: 146.2	Position B5	L5 RPTR Access Tone: 110.9
Position A6	Tone 6: 156.7	Position B6	L6 RPTR Access Tone: 110.9
Position A7	Tone 7: 167.9	Position B7	L7 RPTR Access Tone: 110.9
Position A8	Tone 8: 103.5	Position B8	L1 RX Simplex Tone: 110.9
Position A9	Tone 9: 100.0	Position B9	L2 RX Simplex Tone: 110.9
Position A10	Tone 10: 107.2	Position B10	L3 RX Simplex Tone: 110.9
Position A11	Tone 11: 114.8	Position B11	L4 RX Simplex Tone: 110.9
Position A12	Tone 12: 127.3	Position B12	L5 RX Simplex Tone: 110.9
Position A13	Tone 13: 141.3	Position B13	L6 RX Simplex Tone: 110.9
Position A14	Tone 14: 151.4	Position B14	L7 RX Simplex Tone: 110.9
Position A15	Tone 16: 162.2	Position B15	Special Use 1 Tone: 110.9
Position A16	No Tone	Position B16	Special Use 2 Tone: 110.9



Close-Up View  
Switch A, Switch B  
Repeater Control Module

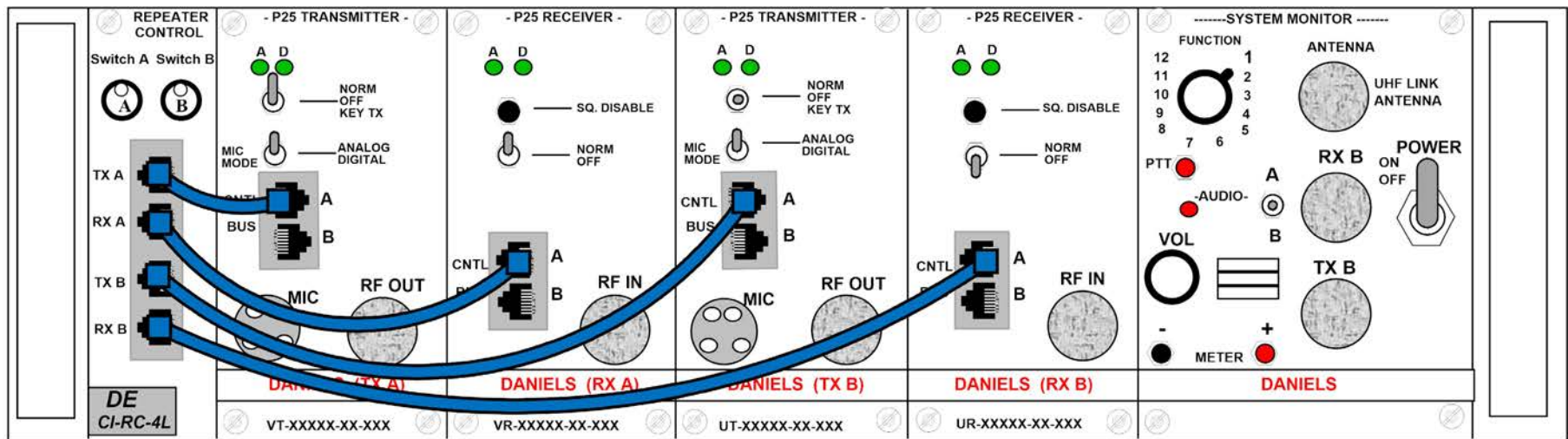
### To Enable Audio to Internal Speaker for Troubleshooting:

1. Enable the speaker by switching the Speaker switch located on the System Regulator Module, to the "ON" position.
2. Select the desired receiver audio, A or B, by turning the Function Switch located on the System Regulator, to position 3 for RX Audio A or position 5 for RX audio B.  
*Note: Select "INT" on the System Regulator Module to enable the audio to the internal speaker or "EXT" for external speaker if connected.*

### System Regulator Switch Functions (4312-VHF Repeater/Link Configuration E-Models Only)

1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3-12	NIRSC Technician Testing
Revised 2022	

# 4312 - VHF REPEATER SWITCH SETTINGS



## 4312 - VHF REPEATER CONFIGURATION:

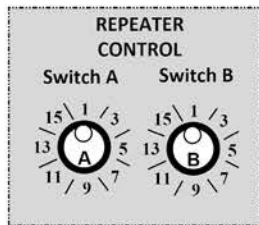
- Set up the VHF Omni-Directional antenna and attach one end of the coaxial cable to the base of the VHF antenna base mount. *(See Antenna Instructions in the User's Guide for detailed setup information)*
- Attach the other end of the VHF coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the power cable to the batteries using the provided POLARIZED fused cable.
- Turn the Power Switch to the "ON" position on the System Monitor Module.
- Keep the power switches on both the TX A and RX A in the "NORM" position.
- Keep the power switches on both the TX B and RX B in the "OFF" position. *(Stand-alone Repeater Configuration- No Linking)*
- Keep the MIC MODE switch on both TX A and TX B in the "ANALOG" position.
- Keep the A/B Audio Select Switch on the System Monitor Module at the center position.
- Select the assigned tone by turning the Switch A knob, located on the top portion of the Repeater Control Module, to the associated position. *(Switch A - Tone Selection) 16 Position Switch, Position 1 is straight up*
- Test with two VHF handhelds to verify the repeater is operating correctly. *(NIRSC recommends testing with the field units or ICP if possible before leaving the site)*

*Note: Selecting a tone will enable the tone on both the TX A and RX A modules.*

*The Communications Duty Officer (CDO) will assign the appropriate tone for each incident. Contact the CDO for a tone assignment @ 208-387-5644*

*The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*

Switch A - VHF Tone Table	
Position A1	Tone 1: 110.9
Position A2	Tone 2: 123.0
Position A3	Tone 3: 131.8
Position A4	Tone 4: 136.5
Position A5	Tone 5: 146.2
Position A6	Tone 6: 156.7
Position A7	Tone 7: 167.9
Position A8	Tone 8: 103.5
Position A9	Tone 9: 100.0
Position A10	Tone 10: 107.2
Position A11	Tone 11: 114.8
Position A12	Tone 12: 127.3
Position A13	Tone 13: 141.3
Position A14	Tone 14: 151.4
Position A15	Tone 15: 162.2
Position A16	No Tone



Close-Up View  
Switch A, Switch B  
Repeater Control Module

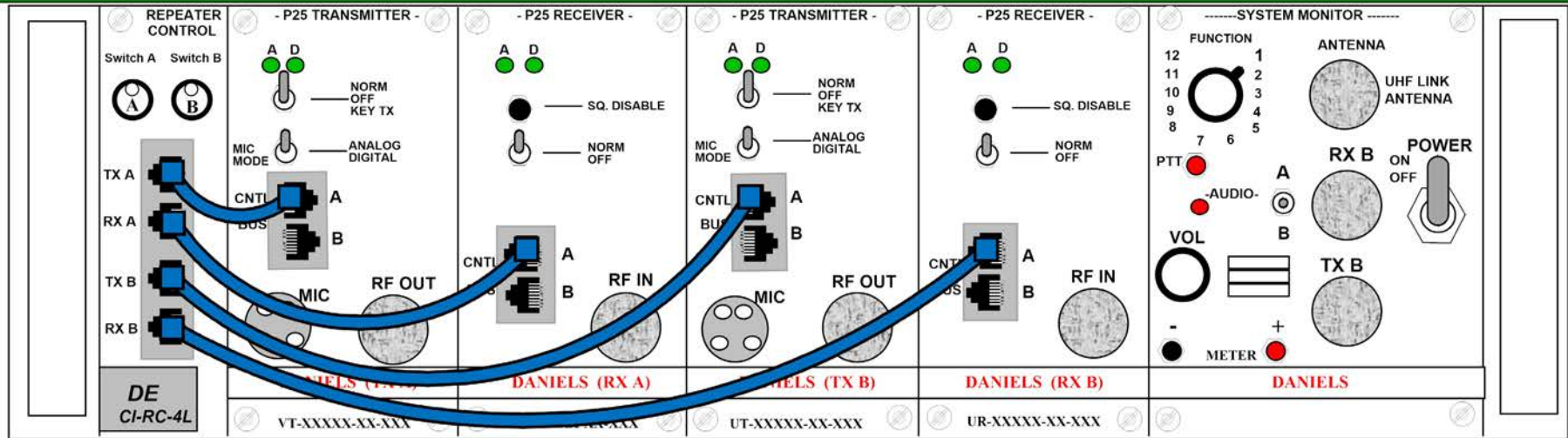
### Enabling Internal Speaker for Troubleshooting

- Enable the speaker Audio A by switching the speaker A/B switch located on the System Monitor, to the "A" position.
- Enable the speaker Audio B by switching the speaker A/B switch located on the System Monitor, to the "B" position.

### System Monitor Switch Functions (4312-VHF Repeater Configuration)

2	+13.8 V (Supply Voltage)
3	+9.5 V Regulated
1, 4-12	NIRSC Technician Testing
Revised 2022	

# 4312 - VHF REPEATER/LINK SWITCH SETTINGS



## 4312 - VHF REPEATER/LINK CONFIGURATION:

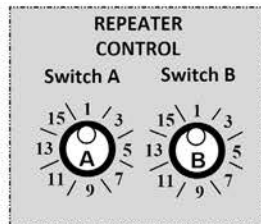
- Set up the VHF Omni-Directional antenna and attach the coaxial cable to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box.
  - Set up the UHF antenna and attach the coaxial cable to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box. *(See Antenna Instructions in the User's Guide for more info)*
  - Connect the power cable to the batteries using the provided fused POLARIZED cable.
  - Turn the Power Switch to the "ON" position on the System Monitor.
  - Keep the power switches on the TX A, RX A, TX B, and RX B in the "NORM" position.
  - Keep the A/B Audio Select Switch on the System Monitor Module at the center position.
  - Keep the MIC MODE switch on both the TX A and TX B in the ANALOG position.
  - Select the assigned tone by turning the Switch A knob, located on the top portion of the Repeater Control Module, to the associated position. *(Switch A - Tone Table)*
  - Select the assigned UHF link frequency by turning the Switch B knob, located on the top portion of the Repeater Control Module, to the associated position. *(Switch B - UHF Link Frequency and Tone Table)*
  - Test with two VHF and one UHF handheld to verify the repeater and link are operating correctly. *(NIRSC recommends testing with the field units or ICP if possible before leaving the site)*
- Note: NIRSC has implemented a fixed RX/TX Tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.**

*Note: Selecting a tone will enable the tone on both the TX A and RX A modules.*

*The Communications Duty Officer (CDO) or COMC will assign the appropriate tone and UHF frequency. Contact the CDO for a tone and UHF frequency assignment @ 208-387-5644*

*Both Switch A and Switch B are a 16 position rotary switch with position 1 being straight up.*

*The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*



Close-Up View  
Switch A, Switch B  
Repeater Control Module

Switch A - VHF Tone Table	
Position A1	Tone 1: 110.9
Position A2	Tone 2: 123.0
Position A3	Tone 3: 131.8
Position A4	Tone 4: 136.5
Position A5	Tone 5: 146.2
Position A6	Tone 6: 156.7
Position A7	Tone 7: 167.9
Position A8	Tone 8: 103.5
Position A9	Tone 9: 100.0
Position A10	Tone 10: 107.2
Position A11	Tone 11: 114.8
Position A12	Tone 12: 127.3
Position A13	Tone 13: 141.3
Position A14	Tone 14: 151.4
Position A15	Tone 15: 162.2
Position A16	No Tone

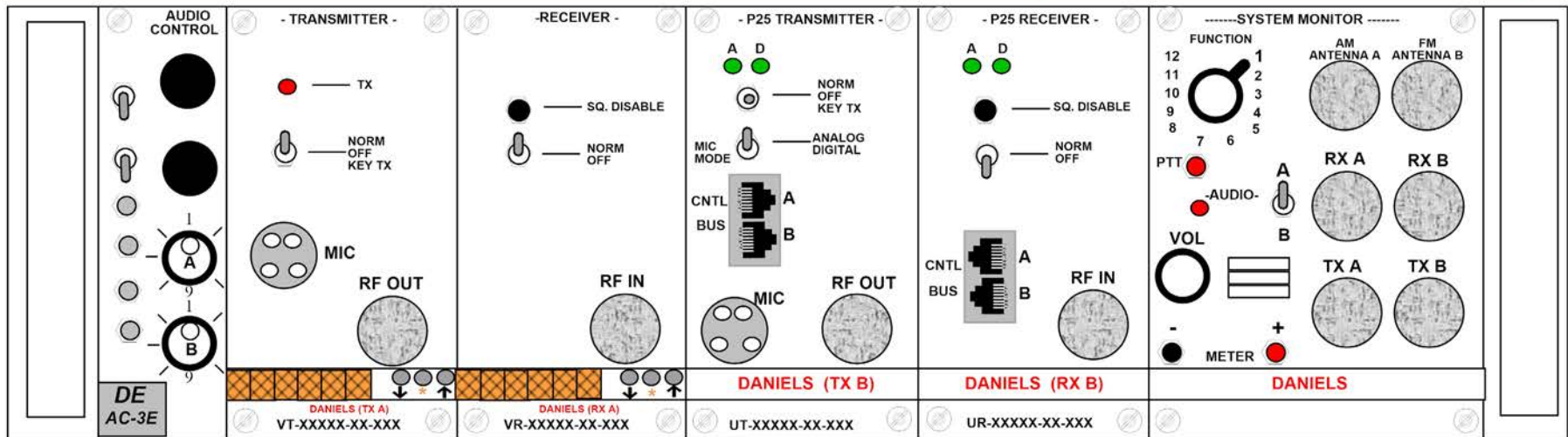
Switch B - UHF Link Frequency/Tone Table	
Position B1	L1 RPTR Access Tone: 110.9
Position B2	L2 RPTR Access Tone: 110.9
Position B3	L3 RPTR Access Tone: 110.9
Position B4	L4 RPTR Access Tone: 110.9
Position B5	L5 RPTR Access Tone: 110.9
Position B6	L6 RPTR Access Tone: 110.9
Position B7	L7 RPTR Access Tone: 110.9
Position B8	L1 RX Simplex Tone: 110.9
Position B9	L2 RX Simplex Tone: 110.9
Position B10	L3 RX Simplex Tone: 110.9
Position B11	L4 RX Simplex Tone: 110.9
Position B12	L5 RX Simplex Tone: 110.9
Position B13	L6 RX Simplex Tone: 110.9
Position B14	L7 RX Simplex Tone: 110.9
Position B15	Special Use 1 Tone: 110.9
Position B16	Special Use 2 Tone: 110.9

### Enabling Internal Speaker for Troubleshooting

- Enable the speaker Audio A by switching the speaker A/B switch located on the System Monitor, to the "A" position.
- Enable the speaker Audio B by switching the speaker A/B switch located on the System Monitor, to the "B" position.

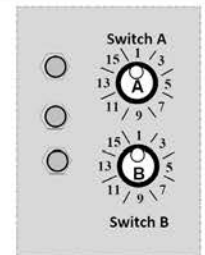
System Monitor Switch Functions (4312 - VHF Repeater/Link Configuration)	
2	+13.8 V (Supply Voltage)
3	+9.5 V Regulated
1, 4-12	NIRSC Technician Testing
Revised 2022	

# 4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS (BASE CONFIGURATION)



## 4370 - AIRCRAFT RADIO/LINK (BASE CONFIGURATION):

- Set up the VHF-AM antenna and attach the coaxial cable to the appropriate AM antenna base mount. *(See Antenna Instructions in the User's Guide for more info)*
- Attach the other end of the AM coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the power cable to the batteries using the provided POLARIZED fused cable. One power is connected, all modules are active. *(No Master Power Switch)*
- Keep both CTCSS switches located on the Audio Control Module, in the "OFF" (down) position.
- Keep the power switches on both the TX A and RX A in "NORM" position.
- Keep the power switches on both the TX B and RX B in "OFF" position.
- Keep the Audio Select Switch on the System Monitor Module in the "A" position to activate RX A Audio.
- Place the rotary switch on the System Monitor Module to Position # 1 to activate the External Speaker.
- Connect the external speaker to the Meter Jacks on the System Monitor Module, observing the correct polarity, and adjust the Volume to desired level.
- Select the assigned AM frequency for the TX A and RX A using the 16-position rotary Switch A on the Audio Control Module. *(Switch A - AM Frequency Channel)*
- *Note: If the AM frequency is not listed, the user must program the AM frequency in Channel A-16 of both the "TX A" and "RX A". (See Manual AM frequency Programming)*  
*The CDO or COMC will assign the appropriate AM frequency. Contact the CDO for an assigned AM frequency at 208-387-5644*
- Connect the provided Microphone to the "MIC" jack on the "AM TX A Module"
- Test through the Microphone and AM handheld to verify proper operation. *(NIRSC recommends testing with the field units or Heli-Base before leaving the site)*



Close-Up View of Switch A and Switch B on the Audio Control Module

## Manual AM Frequency Programming: (Channel 16 ONLY)

*Note: Both the AM transmitter and AM receiver modules must be individually programmed. The Communications Duty Officer (CDO) will assign the appropriate FAA-issued AM Frequency.*

- Turn the rotary Switch A on the Audio Control Module to Channel 16.
- Unlock each unit by momentarily pressing the " \* " button and, before the "Locked" display goes blank, press the "down" button.
- The display should now show "Unlocked".
- Wait for the display to blank, then press either the "up" or "down" button to display the current programmed frequency.
- While the display is showing the frequency, press and hold either the "up" or "down" scrolling until the assigned frequency is reached.
- Lock each unit by momentarily pressing the " \* " button, and before the "Unlocked" display goes blank, press the "up" button.
- The display should now show "Locked"
- The Aircraft Radio is now ready for base station operation on that AM programmed frequency.

Switch A - AM Frequency CH	
Position A1	Channel 1
Position A2	Channel 2
Position A3	Channel 3
Position A4	Channel 4
Position A5	Channel 5
Position A6	Channel 6
Position A7	Channel 7
Position A8	Channel 8
Position A9	Channel 9
Position A10	Channel 10
Position A11	Channel 11
Position A12	Channel 12
Position A13	Channel 13
Position A14	Channel 14
Position A15	Channel 15
Position A16	Programmable

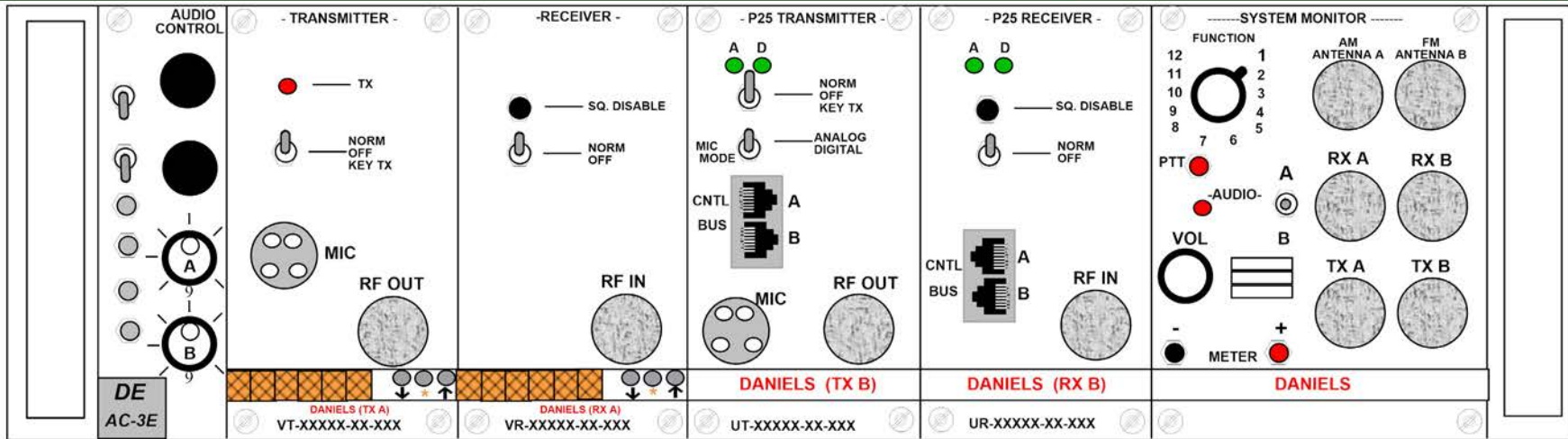
## Enabling Internal Speaker for Troubleshooting

- Enable the speaker audio A by switching the speaker A/B switch located on the System Monitor, to the "A" position.
- Enable the speaker audio B by switching the speaker A/B switch located on the System Monitor, to the "B" position.

## System Monitor Switch Functions (4370 - Aircraft Radio Base Configuration)

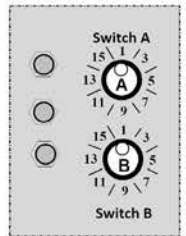
1	External Speaker
2	+13.8 V Regulated
3	+9.5 V Regulated
4-12	NIRSC Technician Testing
Revised 2022	

# 4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS (LINK CONFIGURATION)



## 4370 - AIRCRAFT RADIO/LINK: (LINK CONFIGURATION)

- Set up the VHF-AM antenna and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box. (See Antenna Instructions in the User's Guide for info)
- Set up the UHF antenna and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box.
- Connect the power cable to the batteries using the provided POLARIZED fused cable. Once power is connected, all modules are active. (No Master Power Switch)
- Keep both CTCSS switches, located on the Audio Control Module in the "OFF" position.
- Keep the power switches on the TX A, RX A, TX B, and RX B in the "NORM" position.
- Keep the MIC MODE on the TX B in the ANALOG position.
- Keep the A/B Audio Select Switch on the System Monitor Module at the center position for "OFF"
- Select the assigned AM frequency for both TX A and RX A using the 16-position rotary Switch A on the Audio Control Module. (Switch A - AM Frequency Channel)  
*Note: If the AM frequency is not listed, the user must program the AM frequency in Channel A-16 of both the "TX A" and "RX A". (See Manual AM Frequency Programming)  
 The CDO or COMC will assign the appropriate AM Frequency. Contact the CDO for an assigned AM frequency @ 208-387-5644*
- Select the assigned FM UHF link frequency for both the TX B and RX B using the 16-position rotary Switch B on the Audio Control Module. (Switch B - UHF Link Frequency and Tone Table)  
*Note: The NIRSC has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.  
 The Communications Duty Officer (CDO) will assign the FM UHF Link frequency.*
- Test with one AM and one UHF radio to verify link is operating correctly. (NIRSC recommends testing with the field units or Heli-Base is possible before leaving the site)



Close-Up View of Switch A and Switch B Audio Control Module

## Manual AM Frequency Programming: (Channel 16 ONLY)

- Note: Both the AM transmitter and AM receiver modules must be individually programmed.  
 The Communications Duty Officer (CDO) will assign the appropriate FAA-issued AM Frequency.*
- Turn the rotary Switch A (top rotary switch) on the Audio Control Module to Channel 16.
  - Unlock each unit by momentarily pressing the " \* " button and, before the "Locked" display goes blank, press the "down" button.
  - The display should now show "Unlocked".
  - Wait for the display to go blank, then press either the "up" or "down" button to display the current programmed frequency.
  - While the display is showing the frequency, press and hold either the "up" or "down" scrolling until the desired frequency is reached.
  - Lock each unit by momentarily pressing the " \* " button and before the "Unlocked" display goes blank, press the "up" button.
  - The display should now show "Locked"
  - The Aircraft radio is now ready to operate on that AM programmed frequency.

Switch A - AM Frequency CH		Switch B - UHF Frequency/Tone Table		
Position A1	Channel 1	Position B1	A/C 1 Simplex	Tone 1: 110.9
Position A2	Channel 2	Position B2	A/C 2 Simplex	Tone 1: 110.9
Position A3	Channel 3	Position B3	A/C 3 Simplex	Tone 1: 110.9
Position A4	Channel 4	Position B4	A/C 4 Simplex	Tone 1: 110.9
Position A5	Channel 5	Position B5	A/C 5 Simplex	Tone 1: 110.9
Position A6	Channel 6	Position B6	A/C 6 Simplex	Tone 1: 110.9
Position A7	Channel 7	Position B7	A/C 7 Simplex	Tone 1: 110.9
Position A8	Channel 8	Position B8	A/C 8 Simplex	Tone 1: 110.9
Position A9	Channel 9	Position B9	A/C 9 (L8 Simp)	Tone 1: 110.9
Position A10	Channel 10	Position B10	A/C 10 (L8 RPTR)	Tone 1: 110.9
Position A11	Channel 11	Position B11	A/C 11 (L9 Simp)	Tone 1: 110.9
Position A12	Channel 12	Position B12	A/C 12 (L9 RPTR)	Tone 1: 110.9
Position A13	Channel 13	Position B13	A/C 13 (L10 Simp)	Tone 1: 110.9
Position A14	Channel 14	Position B14	A/C 14 (L10 RPTR)	Tone 1: 110.9
Position A15	Channel 15	Position B15	A/C 15 (L11 Simp)	Tone 1: 110.9
Position A16	Programmable	Position B16	A/C 16 (L11 RPTR)	Tone 1: 110.9

## Enabling Internal Speaker for Troubleshooting

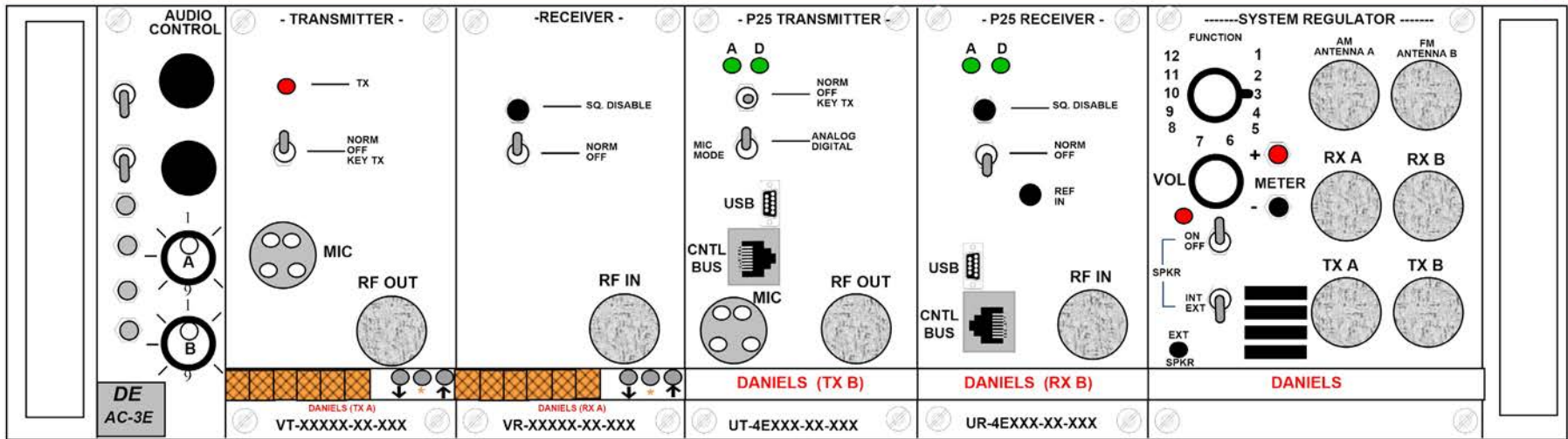
- Enable the speaker Audio A by switching the speaker A/B switch located on the System Monitor, to the "A" position.
- Enable the speaker Audio B by switching the speaker A/B switch located on the System Monitor, to the "B" position.

## System Monitor Switch Functions (4370 - Aircraft Radio Link Configuration)

1	External Speaker
2	+9.5 V Regulated
3-12	NIRSC Technician Testing
Revised 2022	

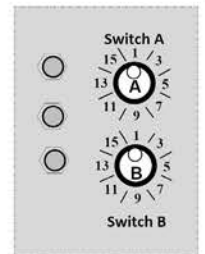


# 4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS ( E-MODEL BASE CONFIGURATION)



## 4370 - AIRCRAFT RADIO/LINK BASE CONFIGURATION: (E MODELS ONLY)

- Set up the VHF-AM antenna and attach the coaxial cable to the appropriate **AM antenna base** mount. (See *Antenna Instructions in the User's Guide for more info*)
- Attach the other end of the **AM** coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the power cable to the batteries using the provided **POLARIZED** fused cable. Once power is connected, all modules are active. (**No Master Power Switch**)
- Keep both **CTCSS** switches located on the **Audio Control Module**, in the "OFF" (down) position.
- Keep the power switches on both the **TX A** and **RX A** in "NORM" position.
- Keep the power switches on both the **TX B** and **RX B** in "OFF" position.
- Keep the Speaker Switch on the **System Regulator Module** in the "ON" position to enable the speaker.
- Place the function rotary switch on the **System Regulator Module** to **Position # 3** to activate the **RX A Audio**.
- Keep the Speaker Switch on the **System Regulator Module** in the "EXT" position to enable the **RA A Audio** to the **External Speaker**.
- Connect the provided **external speaker** to the "EXT SPRK" jack on the **System Regulator Module**, and adjust the Volume to the desired level.
- Select the **assigned AM** frequency for the **TX A** and **RX A** using the 16-position rotary **Switch A** on the **Audio Control Module**. (**Switch A - AM Frequency Channel**)  
*Note: If the AM frequency is not listed, the user must program the AM frequency in Channel A-16 on both the "TX A" and "RX A". (See Manual AM frequency Programming)*  
*The CDO or COMC will assign the appropriate AM frequency. Contact the CDO for an assigned AM frequency at 208-387-5644*
- Connect the provided **Microphone** to the "MIC" jack on the "AM TX A Module"
- Test through the **Microphone** and **AM handheld** to verify proper operation.  
*(NIRSC recommends testing with the field units or Heli-Base before leaving the site)*



Close-Up View of Switch A and Switch B on the Audio Control Module

## Manual AM Frequency Programming: (Channel 16 ONLY)

**Note: Both the AM transmitter and AM receiver modules must be individually programmed. The Communications Duty Officer (CDO) will assign the appropriate FAA-issued AM Frequency.**

- Turn the rotary **Switch A** on the **Audio Control Module** to **Channel 16**.
- Unlock each unit by momentarily pressing the "\*" button and, before the "Locked" display goes blank, press the "down" button.
- The display should now show "Unlocked".
- Wait for the display to blank, then press either the "up" or "down" button to display the current programmed frequency.
- While the display is showing the frequency, press and hold either the "up" or "down" scrolling until the assigned frequency is reached.
- Lock each unit by momentarily pressing the "\*" button, and before the "Unlocked" display goes blank, press the "up" button.
- The display should now show "Locked"
- The Aircraft Radio is now ready for base station operation on that **AM** programmed frequency.

Switch A - AM Frequency CH	
Position A1	Channel 1
Position A2	Channel 2
Position A3	Channel 3
Position A4	Channel 4
Position A5	Channel 5
Position A6	Channel 6
Position A7	Channel 7
Position A8	Channel 8
Position A9	Channel 9
Position A10	Channel 10
Position A11	Channel 11
Position A12	Channel 12
Position A13	Channel 13
Position A14	Channel 14
Position A15	Channel 15
Position A16	Programmable

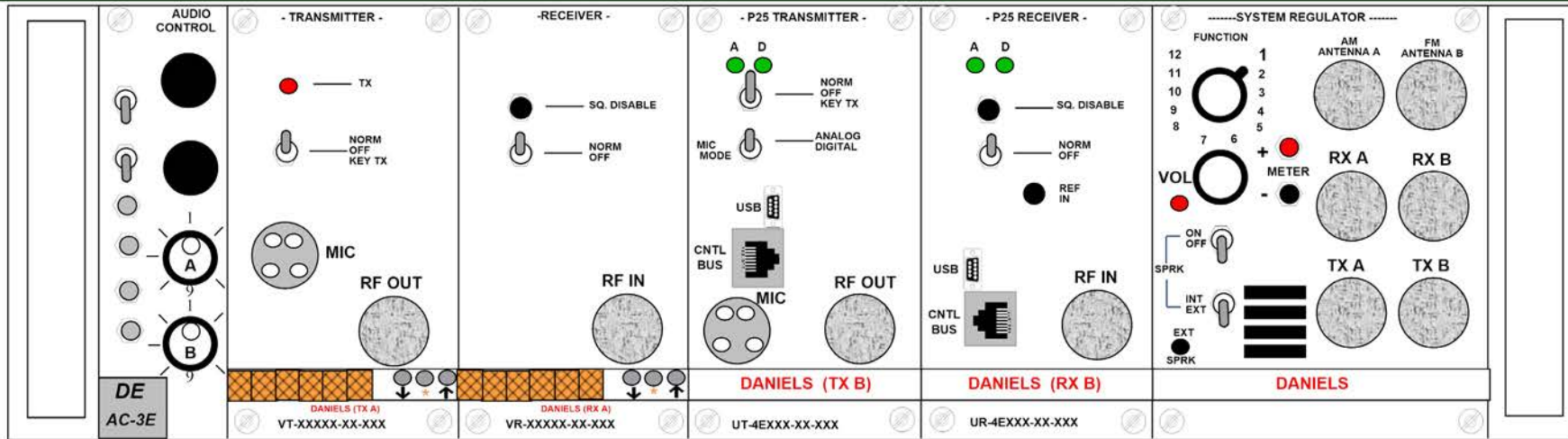
## Enabling Internal Speaker for Troubleshooting

- **Enable the speaker** by switching the speaker switch located on the **System Regulator**, to the "ON" position.
- **Enable the RX A Audio** by selecting **position 3** on the **Function** switch located on the **System Regulator** for **RX A Audio**.
- **Enable the Internal or External Speaker** by switching the **SPKR** switch to the "INT" or "EXT" position.

## System Regulator Switch Functions (4370 - Aircraft Radio Base Configuration)

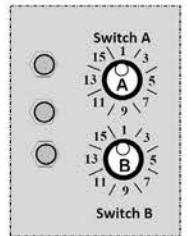
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3	RX A Audio
4-12	NIRSC Technician Testing
Revised 2022	

# 4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS (E-MODEL LINK CONFIGURATION)



## 4370 - AIRCRAFT RADIO/LINK in LINK CONFIGURATION: (E-MODELS ONLY)

- Set up the VHF-AM antenna and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box. (See Antenna Instructions in the User's Guide for info)
- Set up the UHF antenna and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box.
- Connect the power cable to the batteries using the provided POLARIZED fused cable. Once power is connected, all modules are active. (No Master Power Switch)
- Keep both CTCSS switches, located on the Audio Control Module in the "OFF" position.
- Keep the power switches on the TX A, RX A, TX B, and RX B in the "NORM" position.
- Keep the MIC MODE on the TX B in the ANALOG position.
- Keep the Speaker Select Switch on the System Regulator Module to the "OFF" position.
- Select the assigned AM frequency for both TX A and RX A using the 16-position rotary Switch A on the Audio Control Module. (Switch A - AM Frequency Channel)  
*Note: If the AM frequency is not listed, the user must program the AM frequency in Channel A-16 on both the "TX A" and "RX A". (See Manual AM Frequency Programming)  
 The CDO or COMC will assign the appropriate AM Frequency. Contact the CDO for an assigned AM frequency @ 208-387-5644*
- Select the assigned FM UHF link frequency for both the TX B and RX B using the 16-position rotary Switch B on the Audio Control Module. (Switch B - UHF Link Frequency and Tone Table)  
*Note: The NIRSC has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.  
 The Communications Duty Officer (CDO) will assign the FM UHF Link frequency.*
- Test with one AM and one UHF radio to verify link is operating correctly. (NIRSC recommends testing with the field units or Heli-Base is possible before leaving the site)



Close-Up View of Switch A and Switch B Audio Control Module

## Manual AM Frequency Programming: (Channel 16 ONLY)

- Note: Both the AM transmitter and AM receiver modules must be individually programmed.  
 The Communications Duty Officer (CDO) will assign the appropriate FAA-issued AM Frequency.*
- Turn the rotary Switch A (top rotary switch) on the Audio Control Module to Channel 16.
  - Unlock each unit by momentarily pressing the "\*" button and, before the "Locked" display goes blank, press the "down" button.
  - The display should now show "Unlocked".
  - Wait for the display to go blank, then press either the "up" or "down" button to display the current programmed frequency.
  - While the display is showing the frequency, press and hold either the "up" or "down" scrolling until the desired frequency is reached.
  - Lock each unit by momentarily pressing the "\*" button and before the "Unlocked" display goes blank, press the "up" button.
  - The display should now show "Locked"
  - The Aircraft radio is now ready to operate on that AM programmed frequency.

Switch A - AM Frequency CH		Switch B - UHF Frequency and TX/RX Tone Table	
Position A1	Channel 1	Position B1	A/C 1 Simplex Tone 1: 110.9
Position A2	Channel 2	Position B2	A/C 2 Simplex Tone 1: 110.9
Position A3	Channel 3	Position B3	A/C 3 Simplex Tone 1: 110.9
Position A4	Channel 4	Position B4	A/C 4 Simplex Tone 1: 110.9
Position A5	Channel 5	Position B5	A/C 5 Simplex Tone 1: 110.9
Position A6	Channel 6	Position B6	A/C 6 Simplex Tone 1: 110.9
Position A7	Channel 7	Position B7	A/C 7 Simplex Tone 1: 110.9
Position A8	Channel 8	Position B8	A/C 8 Simplex Tone 1: 110.9
Position A9	Channel 9	Position B9	A/C 9 (L8 Simp) Tone 1: 110.9
Position A10	Channel 10	Position B10	A/C 10 (L8 RPTR) Tone 1: 110.9
Position A11	Channel 11	Position B11	A/C 11 (L9 Simp) Tone 1: 110.9
Position A12	Channel 12	Position B12	A/C 12 (L9 RPTR) Tone 1: 110.9
Position A13	Channel 13	Position B13	A/C 13 (L10 Simp) Tone 1: 110.9
Position A14	Channel 14	Position B14	A/C 14 (L10 RPTR) Tone 1: 110.9
Position A15	Channel 15	Position B15	A/C 15 (L11 Simp) Tone 1: 110.9
Position A16	Programmable	Position B16	A/C 16 (L11 RPTR) Tone 1: 110.9

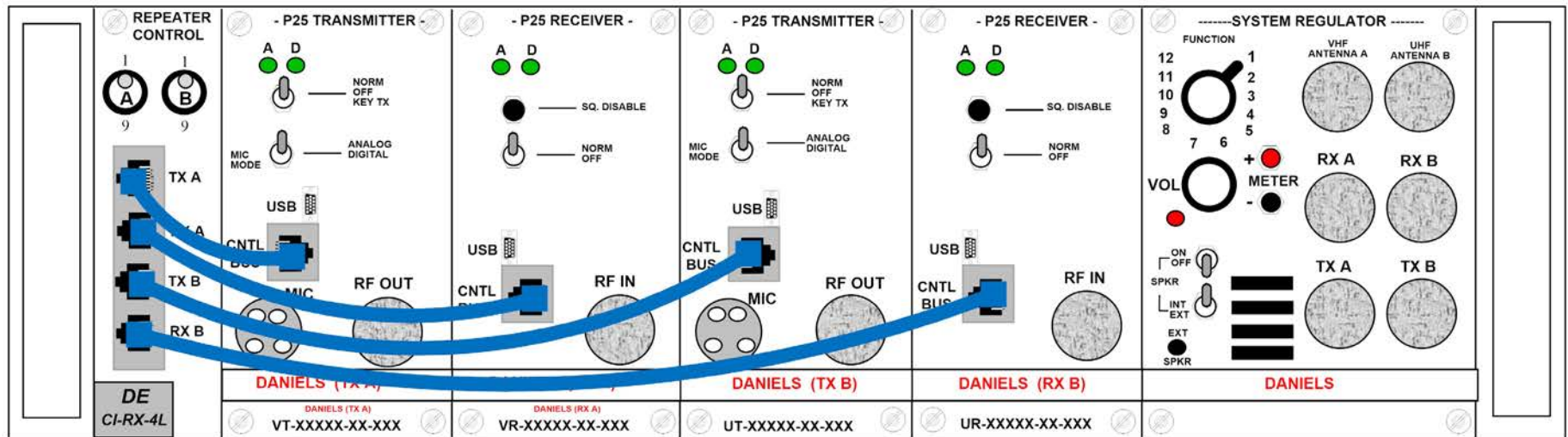
## Enabling Internal Speaker for Troubleshooting

- Enable the speaker by switching the speaker switch located on the System Regulator, to the "ON" position.
- Enable the RX Audio by selecting position 3 on the Function Switch located on the System Regulator for RX A Audio. Use position 5 for RX B Audio.
- Enable the Internal or External Speaker by switching the SPKR switch to the "INT" or "EXT" position.

## System Regulator Switch Functions (4370 - Aircraft Radio Link Configuration)

1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3	RX A Audio
5	RX B Audio
Revised 2022	

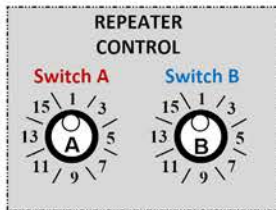
# 4281 - CROSSBAND LINK SWITCH SETTINGS



## 4281 Crossband Link: (Link Configuration)

- Set up the VHF Antenna and attach the coax to the appropriate VHF Base and connector on the bulkhead mount located on the back of the fiberglass box. *(See Antenna Instructions in the User's Guide for more info)*
  - Set up the UHF Antenna and attach the coax to the appropriate UHF Base and connector on the bulkhead mount located on the back of the fiberglass box.
  - Connect the power cable to the batteries using the provided **POLARIZED** fused cable. Once the power cable is connected, all modules are active. *(No master power switch)*
  - Turn each module "ON" by keeping the power switches on the TX A, RX A, TX B, and RX B in the "NORM" position.
  - Keep both Mic Mode on TX A and TX B in the "ANALOG" position.
  - Keep the speaker audio OFF by switching the Speaker Switch on the System Regulator to the "OFF" position.
  - Select the assigned VHF frequency/tone for both the TX A and RX A modules using the 16-position rotary Switch A on the Repeater Control Module. *(Switch A, VHF Frequency Select)*
  - Select the assigned UHF frequency/tone for both the TX B and RX B modules using the 16-position rotary Switch B on the Repeater Control Module. *(Switch B, UHF Frequency Select)*
- Note: NIRSC has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.*
- Test with the appropriate handhelds to verify the link is operating correctly. *(NIRSC recommends testing with the field units or ICP if possible before leaving the site)*
- Note: The Communications Duty Officer (CDO) will assign both the VHF and UHF frequencies or tone based on the incident system design and available frequencies. Contact the CDO or COMC before placing an order to NIRSC @ 208-387-5644.*

Switch A - VHF Frequency List		Switch B - UHF Frequency List	
Position A1	C1 RPTR	Position B1	L1 RPTR
Position A2	C2 RPTR	Position B2	L2 RPTR
Position A3	C3 RPTR	Position B3	L3 RPTR
Position A4	C4 RPTR	Position B4	L4 RPTR
Position A5	C5 RPTR	Position B5	L5 RPTR
Position A6	C6 RPTR	Position B6	L6 RPTR
Position A7	C1 RPTR	Position B7	L7 RPTR
Position A8	C1 RX Simplex	Position B8	L1 RX Simplex
Position A9	C2 RX Simplex	Position B9	L2 RX Simplex
Position A10	C3 RX Simplex	Position B10	L3 RX Simplex
Position A11	C4 RX Simplex	Position B11	L4 RX Simplex
Position A12	C5 RX Simplex	Position B12	L5 RX Simplex
Position A13	C6 RX Simplex	Position B13	L6 RX Simplex
Position A14	C1 RX Simplex	Position B14	L7 RX Simplex
Position A15	Special Use	Position B15	Special Use
Position A16	Special Use	Position B16	Special Use



Close-Up View of Switch A and Switch B on the Repeater Control Module

- To Enable Audio to Internal Speaker for Troubleshooting:**
1. Enable the speaker by switching the Speaker switch located on the System Regulator Module, to the "ON" position.
  2. Select the desired receiver audio, A or B, by turning the Function Switch located on the System Regulator, to **position 3 for RX Audio A** or **position 5 for RX audio B**.
- Note: Select "INT" on the System Regulator Module to enable the audio to the internal speaker or "EXT" for the external speaker*

System Regulator Switch Functions (4281 - Crossband Link VHF to UHF)	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3-12	NIRSC Technician Testing
Revised 2022	